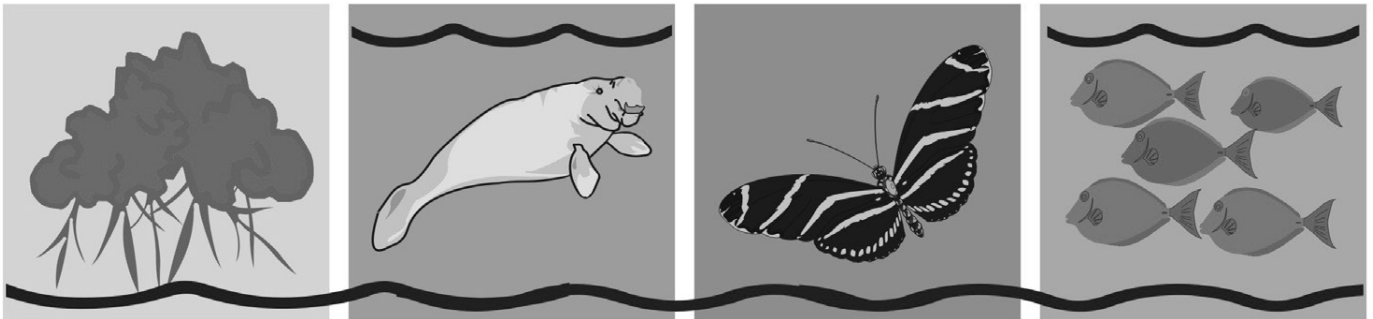


BISCAYNE NATIONAL PARK MARINE RESERVES QUESTIONNAIRE



Note: The text in the shaded boxes below will not be included in the survey (the visitors will not read this as a part of the survey process). This text is used to annotate the questions in response to Part A question 2 of the PRA Supporting Statement

In the following questions, please tell us about your use history of Biscayne National Park.

[Park Use History] – in this section we would like to understand how people use BISC and how those use levels have changed over time. A map will be provided that will depict the geographical boundaries of BISC. The respondent will be asked to refer to the map to answer Q1; Q9, Q21 and Q29

1. **Please look at the enclosed map and examine the boundaries of Biscayne National Park. On your most recent trip to the park, were you aware you were entering Biscayne National Park?**
 - 1 Yes
 - 2 No

2. **In which year did you make your first visit to Biscayne National Park?**
____ Year

3. **Over the past twelve months, how many visits have you made to Biscayne National Park?**
____ Number of Visits

4. **On your most recent visit to Biscayne National Park, how many people, including yourself, were in your party?**
____ Number of People

5. **On the day of your most recent visit to Biscayne National Park, how many miles did you travel to the marina/dock/boat ramp?**
____ Miles

6. **Since your first visit to Biscayne National Park, how has your annual visitation rate to Biscayne National Park changed over time? (Please circle one response)**
 - 1 Far fewer visits
 - 2 Fewer visits
 - 3 Remained about the same
 - 4 More visits
 - 5 Many more visits
 - 6 This is my first visit to Biscayne National Park

7. **How familiar are you with the Biscayne National Park Boundaries?**
 - 1 Not at all familiar
 - 2 Somewhat familiar
 - 3 Moderately familiar
 - 4 Very familiar
 - 5 Extremely familiar

Activity Information and History] – in this section we would like to understand what activities are important to users of BISC and the level of participation in those activities.

8. Below is a list of activities available in Biscayne National Park. Please rank how important it is for you to participate in the following in Biscayne National Park. If you do not participate in an activity at all, please select “n/a”.

	Not at all important	Slightly important	Moderately important	Very important	Extremely important	Not applicable
a. Recreational fishing	1	2	3	4	5	n/a
b. Commercial fishing	1	2	3	4	5	n/a
c. Snorkeling	1	2	3	4	5	n/a
d. SCUBA Diving.....	1	2	3	4	5	n/a
e. Power boating	1	2	3	4	5	n/a
f. Sail boating	1	2	3	4	5	n/a
g. Nature/wildlife observation	1	2	3	4	5	n/a
h. Spearfishing.....	1	2	3	4	5	n/a
i. Lobstering.....	1	2	3	4	5	n/a
j. Canoeing/kayaking	1	2	3	4	5	n/a
k. Boat tours.....	1	2	3	4	5	n/a
g. Other (Specify: _____).....	1	2	3	4	5	n/a

9. Below is a list of activities available in Biscayne National Park. Using the enclosed map please tell us how many days you have participated in each activity **over the past twelve months** in each of the zones shown on the map. Enter the appropriate number of days to indicate your use level.

		Zone			
		A	B	C	D
Activity	Recreational fishing	___ # of days	___ # of days	___ # of days	___ # of days
	Commercial fishing	___ # of days	___ # of days	___ # of days	___ # of days
	Snorkeling	___ # of days	___ # of days	___ # of days	___ # of days
	SCUBA Diving	___ # of days	___ # of days	___ # of days	___ # of days
	Power boating	___ # of days	___ # of days	___ # of days	___ # of days
	Sail boating	___ # of days	___ # of days	___ # of days	___ # of days
	Nature/wildlife observation	___ # of days	___ # of days	___ # of days	___ # of days
	Spearfishing	___ # of days	___ # of days	___ # of days	___ # of days
	Lobstering	___ # of days	___ # of days	___ # of days	___ # of days
	Canoeing/kayaking	___ # of days	___ # of days	___ # of days	___ # of days
	Boat tours	___ # of days	___ # of days	___ # of days	___ # of days
	Other (Specify: _____)	___ # of days	___ # of days	___ # of days	___ # of days

In the next several questions we would like to know what you think about the health of Biscayne National Park.

[Perceptions of resource conditions] – in this section we would like to understand knowledge, attitudes and perceptions of environmental conditions within BISC. Attribution theory is incorporated into these questions to better understand conflict dynamics. Questions 15 and 17 utilize social normative theory to examine broader injunctive norms.

10. Please indicate the extent to which you agree or disagree with the following statements about coral reef health.

	<i>Strongly disagree</i>	<i>Slightly disagree</i>	<i>Neutral</i>	<i>Slightly agree</i>	<i>Strongly agree</i>
a. Coral reef ecosystems in Biscayne National Park are able to easily recover from any impacts from <u>diving/snorkeling</u> without any long-term damage	1	2	3	4	5
b. Coral reef ecosystems in Biscayne National Park are able to easily recover from any impacts from <u>commercial fishing</u> without any long-term damage	1	2	3	4	5
c. Coral reef ecosystems in Biscayne National Park are able to easily recover from any impacts from <u>recreational fishing</u> without any long-term damage	1	2	3	4	5
d. Coral reef ecosystems in Biscayne National Park are generally in a healthy condition	1	2	3	4	5
e. <u>Divers/snorkelers</u> cause some damage to reefs in Biscayne National Park, which has long-lasting effects on reef health	1	2	3	4	5
f. <u>Commercial fishermen</u> cause some damage to reefs in Biscayne National Park, which has long-lasting effects on reef health	1	2	3	4	5
g. <u>Recreational anglers</u> cause some damage to reefs in Biscayne National Park, which has long-lasting effects on reef health	1	2	3	4	5
h. Biscayne National Park reef areas where I typically recreate are in a healthy condition	1	2	3	4	5

11. Overall, do you feel the following are having a positive or negative impact on the ecological health of the marine resources in Biscayne National Park?

	<i>Extremely negative impact</i>	<i>Moderately negative impact</i>	<i>Slightly negative impact</i>	<i>No positive or negative impact</i>	<i>Slightly positive impact</i>	<i>Moderately positive impact</i>	<i>Extremely positive impact</i>
a. Water quality	1	2	3	5	4	6	7
b. SCUBA diving	1	2	3	5	4	6	7
c. Commercial fishing	1	2	3	5	4	6	7
d. Hurricanes	1	2	3	5	4	6	7
e. Snorkeling	1	2	3	5	4	6	7
f. Recreational fishing	1	2	3	5	4	6	7
g. Global climate change	1	2	3	5	4	6	7
h. Marine debris/trash	1	2	3	4	5	6	7

12. Please indicate the extent to which you agree or disagree with the following statements about fish populations.

	<i>Strongly disagree</i>	<i>Slightly disagree</i>	<i>Neutral</i>	<i>Slightly agree</i>	<i>Strongly agree</i>
a. Fish populations in Biscayne National park are able to easily recover from any impacts from <u>diving/snorkeling</u> without any long-term damage	1	2	3	4	5
b. Fish populations in Biscayne National Park are able to easily recover from any impacts from <u>commercial fishing</u> without any long-term damage	1	2	3	4	5
c. Fish populations in Biscayne National Park are able to easily recover from any impacts from <u>recreational fishing</u> without any long-term damage	1	2	3	4	5
d. Fish populations in Biscayne National Park are able to easily recover from any impacts from <u>spearfishing</u> without any long-term damage	1	2	3	4	5
e. <u>Fish populations</u> in Biscayne National Park are generally in a healthy condition.....	1	2	3	4	5
f. <u>Divers/snorkelers</u> cause some damage to fish populations in Biscayne National Park, which has long-lasting effects on fish populations.....	1	2	3	4	5
g. <u>Commercial fishermen</u> cause some damage to fish populations in Biscayne National Park, which has long-lasting effects fish populations	1	2	3	4	5
h. <u>Recreational anglers</u> cause some damage to fish populations in Biscayne National Park, which has long-lasting effects fish populations	1	2	3	4	5
i. <u>Spearfishermen</u> cause some damage to fish populations in Biscayne National Park, which has long-lasting effects fish populations	1	2	3	4	5
j. Biscayne National Park fish populations where I typically recreate are in a healthy condition	1	2	3	4	5

13. Overall, how would you rate the current ecological health of Biscayne National Park?

- 1 Very poor
- 2 Poor
- 3 Fair
- 4 Good
- 5 Very good

14. Do you feel that the ecological health Biscayne National Park is improving, declining or staying the same?

- 1 Declining substantially
- 2 Declining somewhat
- 3 Staying the same
- 4 Improving somewhat
- 5 Improving substantially

In the next several questions we would like to know about your perceptions of marine reserves. For the purpose of this study, a marine reserve is an area that is closed to fishing.

15. We would like to know about your perceptions of marine reserves (areas closed to fishing). Please indicate the extent to which you believe other users of Biscayne National Park would agree or disagree that marine reserves will help to:

	Strongly disagree	Slightly disagree	Neutral	Slightly agree	Strongly agree
a. Protect living coral	1	2	3	4	5
b. Protect living seagrass	1	2	3	4	5
c. Increase the number of fish species in the surrounding area	1	2	3	4	5
d. Increase the total number of fish in the surrounding area	1	2	3	4	5
e. Increase the number of large fish in the surrounding area	1	2	3	4	5
f. Decrease conflict among user groups in the area	1	2	3	4	5
g. Restore degraded ecosystems	1	2	3	4	5
h. Enhance the snorkeling/SCUBA diving experience	1	2	3	4	5
i. Enhance the <u>recreational</u> fishing experience in waters surrounding the reserve.....	1	2	3	4	5
j. Enhance the <u>commercial</u> fishing experience in waters surrounding the reserve.....	1	2	3	4	5

16. Please indicate if you have ever heard of the following ocean management concepts. If you answer "Yes" to any of the items please indicate your knowledge level about each.

<u>Heard of?</u>		Not very knowledgeable	Slightly knowledgeable	Somewhat knowledgeable	Very knowledgeable	Extremely knowledgeable
a. Marine protected areas	NO YES	1	2	3	4	5
b. Ocean zoning	NO YES	1	2	3	4	5
c. Harvest refugia	NO YES	1	2	3	4	5
d. No-take marine reserves	NO YES	1	2	3	4	5
e. Marine sanctuaries	NO YES	1	2	3	4	5
f. Sanctuary preservation areas	NO YES	1	2	3	4	5
g. Ecological reserves	NO YES	1	2	3	4	5
h. Research natural areas.....	NO YES	1	2	3	4	5

17. Please indicate the extent to which you feel other users of Biscayne National Park would agree or disagree that:

	<i>Strongly disagree</i>	<i>Slightly disagree</i>	<i>Neutral</i>	<i>Slightly agree</i>	<i>Strongly agree</i>
a. Resource managers have accumulated enough scientific knowledge about the effectiveness of marine reserves to know how they work	1	2	3	4	5
b. A public participation process is needed when designating and implementing marine reserves	1	2	3	4	5
c. Resource managers should rely mostly on the judgments of marine biologists when deciding where to create a marine reserve	1	2	3	4	5
d. Resource managers should rely mostly on the judgments of marine biologists when deciding how to create a marine reserve	1	2	3	4	5
e. When creating marine reserves, resource managers are attempting to help <u>recreational anglers</u> by improving fish stocks.....	1	2	3	4	5
f. When creating marine reserves, resource managers are attempting to help <u>commercial fishermen</u> by improving fish stocks.....	1	2	3	4	5
g. When creating marine reserves, resource managers are attempting to help <u>snorkelers/divers</u> by improving coral reef ecosystems	1	2	3	4	5

18. Below is a list of user groups in Biscayne National Park. Please indicate how you feel each group would be impacted from the possible creation of a no-take marine reserve somewhere in Biscayne National Park.

	<i>Extremely negative impact</i>	<i>Moderately negative impact</i>	<i>No positive or negative impact</i>	<i>Moderately positive impact</i>	<i>Extremely positive impact</i>
a. Recreational fishermen	1	2	3	4	5
b. Commercial fishermen	1	2	3	4	5
c. Snorkelers	1	2	3	4	5
d. SCUBA Divers	1	2	3	4	5
e. Power boaters	1	2	3	4	5
f. Sail boaters	1	2	3	4	5
g. Nature/wildlife observers.....	1	2	3	4	5
h. Spearfishermen.....	1	2	3	4	5
i. Lobster fishermen	1	2	3	4	5
j. Canoeists/kayakers.....	1	2	3	4	5
k. Participants in boat tours.....	1	2	3	4	5
g. Other (Specify: _____).....	1	2	3	4	5

19. Below is a list of possible marine management options that could be applied within Biscayne National Park. Please indicate the extent to which you support or oppose each management option.

	Strongly oppose	Slightly oppose	Neutral	Slightly support	Strongly support
a. No additional fishing restrictions	1	2	3	4	5
b. Catch and release fishing only	1	2	3	4	5
c. No fishing permitted.....	1	2	3	4	5
d. Spearfishing permitted, but with gear restrictions.....	1	2	3	4	5
e. No spearfishing permitted	1	2	3	4	5
f. No lobstering permitted.....	1	2	3	4	5
g. No additional diving/snorkeling restrictions.....	1	2	3	4	5
h. Boats must anchor at mooring buoys	1	2	3	4	5
i. Boats can only anchor in specified locations (no buoys).....	1	2	3	4	5
j. Diving by permit only.....	1	2	3	4	5
k. No diving/snorkeling permitted	1	2	3	4	5
l. Area open to boat transit only (no stopping)	1	2	3	4	5
m. Limited "rafting" of boats (tying multiple boats together)	1	2	3	4	5
n. Boating by permit only	1	2	3	4	5
o. Creation of a "no-motor" zone.....	1	2	3	4	5

[Activity Information and History] – in this section we would like to understand the respondent’s recreational experience with specific reference to BISC. Substitution theory is included in this questions to try and understand displacement of users

There are many places to engage in various outdoor recreation activities in Biscayne National Park. In the next several questions we are attempting to understand the reason you may choose to participate in your primary recreation activity in one location versus another, or if necessary choose to engage in different recreational activities entirely in Biscayne National Park.

20. Below is a list of activities available in Biscayne National Park. Please select the one activity in which you primarily engage while in Biscayne National Park.

- 1 Recreational fishing
- 2 Commercial fishing
- 3 Snorkeling
- 4 SCUBA Diving
- 5 Power boating
- 6 Sail boating
- 7 Nature/wildlife observation
- 8 Spearfishing
- 9 Lobstering
- 10 Canoeing/kayaking
- 11 Boat tours
- 12 Other (Specify: _____)

21. Please look at the enclosed map of Biscayne National Park. In which zone do you **most prefer** to participate in your primary activity (from Question 20, above)?

____ Zone

When answering Questions 22 - 29, refer to your primary activity and most preferred zone listed in questions 20 and 21.

22. Imagine that you discovered that you could not participate in your primary activity in your most preferred zone **during your next planned trip** to Biscayne National Park. What would you do?

- 1 I would still participate in my primary activity, but elsewhere in Biscayne National Park
- 2 I would still participate in my primary activity, but outside of Biscayne National Park
- 3 I would temporarily participate in a different activity in Biscayne National Park
- 4 I would temporarily participate in a different activity, but outside of Biscayne National Park

23. Imagine that you discovered that you could not participate in your primary activity in your most preferred zone **for the next five years**. What would you do?

- 1 I would still participate in my primary activity, but elsewhere in Biscayne National Park
- 2 I would still participate in my primary activity, but outside of Biscayne National Park
- 3 I would permanently participate in a different activity in Biscayne National Park
- 4 I would permanently participate in a different activity, but outside of Biscayne National Park

24. Imagine that you discovered during your next planned trip to Biscayne National Park, that your most preferred zone was **slightly more crowded** than you normally find acceptable. What would you do?

- 1 I would make an exception and still participate in my primary activity in this zone
- 2 I would still participate in my primary activity, but elsewhere in Biscayne National Park
- 3 I would temporarily participate in a different activity in Biscayne National Park
- 4 I would temporarily participate in a different activity, but outside Biscayne National Park

25. Imagine that you discovered during your next planned trip to Biscayne National Park, that your most preferred zone was **much more crowded** than you normally find acceptable. What would you do?

- 1 I would make an exception and still participate in my primary activity in this zone
- 2 I would still participate in my primary activity, but elsewhere in Biscayne National Park
- 3 I would temporarily participate in a different activity in Biscayne National Park
- 4 I would temporarily participate in a different activity, but outside Biscayne National Park

26. **Imagine that you discovered during your next planned trip to Biscayne National Park, that your most preferred zone was slightly more environmentally damaged than you normally find acceptable. What would you do?**

- 1 I would make an exception and still participate in my primary activity in this zone
- 2 I would still participate in my primary activity, but elsewhere in Biscayne National Park
- 3 I would temporarily participate in a different activity in Biscayne National Park
- 4 I would temporarily participate in a different activity, but outside Biscayne National Park

27. **Imagine that you discovered during your next planned trip to Biscayne National Park, that your most preferred zone was much more ecologically damaged than you normally find acceptable. What would you do?**

- 1 I would make an exception and still participate in my primary activity in this zone
- 2 I would still participate in my primary activity, but elsewhere in Biscayne National Park
- 3 I would temporarily participate in a different activity in Biscayne National Park
- 4 I would temporarily participate in a different activity, but outside Biscayne National Park

28. **Imagine that you discovered during your next planned trip to Biscayne National Park that user groups with whom you experience conflict are using your most preferred zone. What would you do?**

- 1 I would make an exception and still participate in my primary activity in this zone
- 2 I would still participate in my primary activity, but elsewhere in Biscayne National Park
- 3 I would temporarily participate in a different activity in Biscayne National Park
- 4 I would temporarily participate in a different activity, but outside Biscayne National Park

29. **If you could not participate in your primary activity in your most desirable zone, which other zones in Biscayne National Park do you think can offer just as good an experience as your most preferred zone. Please refer to the enclosed map and rank the zones in order of desirability. If no other zones are just as good, check "None". Please list all zones that apply.**

Zone →				
Desirability →	<i>Very desirable ----- Less desirable</i>			

None

The following questions will help us to understand of users of Biscayne National Park. The information you provide us will remain strictly anonymous. Your name will never be associated with your answers.

Demographics] – This information is needed to check the representativeness of our sample against the population. Variables such as age, gender and income are included since they are often good predictors of demand and visitation behavior.

30. What is your age?

____ Years

31. Are you:

1 Male

2 Female

32. What is the ZIP Code of your primary residence?

— — — — —

33. On your most recent visit to Biscayne National Park, how many hours did you stay in the park?

____ Hours

34. In which city is the marina/dock or boat ramp from which you started your most recent visit to Biscayne National Park?

35. Which of the following do you consider yourself to be?

1 A *permanent resident* of South Florida

2 A *seasonal resident* of South Florida (you reside in South Florida for less than half of the year)

3 A *non-resident* (visitor) to South Florida

36. Would you classify yourself as Hispanic or Latino?

1 Yes

2 No

37. Which of the following is the primary language used to communicate in your household?

1 English

2 Spanish

3 Creole

4 Other (Specify: _____)

38. Which category best describes your race? (Please circle one).

- 1 American Indian or Alaskan Native
- 2 Asian
- 3 Black or African American
- 4 Native Hawaiian or other Pacific Islander
- 5 White

39. Which of the following categories best describes your annual household income?

- | | |
|-----------------------|--------------------------|
| 1 Under \$5,000 | 9 \$40,000 - \$44,999 |
| 2 \$5,000 - \$9,999 | 10 \$45,000 - \$49,999 |
| 3 \$10,000 - \$14,999 | 11 \$50,000 - \$59,999 |
| 4 \$15,000 - \$19,999 | 12 \$60,000 - \$74,999 |
| 5 \$20,000 - \$24,999 | 13 \$75,000 - \$99,999 |
| 6 \$25,000 - \$29,999 | 14 \$100,000 - \$149,999 |
| 7 \$30,000 - \$34,999 | 15 \$150,000 or more |
| 8 \$35,000 - \$39,999 | |

Is there anything else about Biscayne National Park or this questionnaire you would like to share with us?

Your contribution to the effort is greatly appreciated. Please return your completed questionnaire in the postage-paid envelope as soon as possible. Thank you!

Please direct all inquiries to:

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A report containing the results of this study will be available in 2012 at our website: www.ecu.edu/hd